Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)
	)
HAZELTON INDUSTRIES, INC.	)
	)
Licensee of Private Land Mobile Radio Station WQEN999	)

ORDER PROPOSING MODIFICATION

Adopted: May 12, 2010 **Released: May 14, 2010**

By the Deputy Chief, Mobility Division, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. By this *Order Proposing Modification*, we initiate a proceeding to modify the license of Hazelton Industries, Inc. (Hazelton) for Private Land Mobile Radio (PLMR) Station WQEN999 by reducing the Effective Radiated Power (ERP) of the base station location from 250 watts to 78 watts. We take this action in furtherance of ensuring compliance with international obligations.

II. BACKGROUND

2. Hazelton is licensed to operate PLMR Station WQEN999 at a single fixed location in Lenawee County, Michigan. Because Station WQEN999 operates in the 800 MHz band and is located within 140 kilometers of the border with Canada, it is subject to the provisions of a bilateral annex with Canada (Arrangement F) which specifies the conditions under which 800 MHz PLMR stations may operate along the border.[1]

3. Arrangement F divides the 800 MHz band into band segments and assigns primary access to these band segments to either licensees in the United States or Canada.[2] U.S. licensees may operate on band segments designated as primary to licensees in Canada, but only if they satisfy certain signal strength limits at the border.[3] These signal strength limits are specified in terms of power flux density (PFD) and vary depending on the height of the transmitting antenna.[4]

[1] *See* Arrangement Between the Dept. of Communications of Canada and the FCC of the United States Concerning the Use Along the US-Canada Border of the Band 806-890 MHz (Jan. 1994) (Arrangement F) as modified by attachment to letter from Robert W. McCaugern, Deputy Director General, Spectrum Engineering to Mr. Bruce Franca, Deputy Chief Engineer, Office of Engineering and Technology, Federal Communications Commission (Dec. 9, 1994) (Letter Amendment).

[2] Arrangement F at ¶¶ 3-4.

[3] Letter Amendment at Annex A.

[4] *Id.* at Annex B, Tables C1 and C2.

4. Hazelton's license for Station WQEN999 authorizes operation on a channel pair in the 811.25-815.75 MHz/856.25-860.75 MHz band segment, which is primary to licensees in Canada under Arrangement F.[5] Consequently, we have calculated the PFD at the border from Hazelton's base station location and listed the results in Attachment I, Table A2. The PFD value from this base station exceeds the permitted PFD at the border by at approximately 5 dB on the frequency identified in Table A3 of Attachment I.

III. DISCUSSION

5. Based on the information before us, we conclude that the license for Station WQEN999 should be modified by reducing the ERP of the base station location from 250 watts to 78 watts as indicated in Attachment 1, Table A3.[6] We propose this modification in order to bring Station WQEN999 into compliance with the PFD limits specified in Arrangement F.

6. In accordance with Section 1.87(a) of the Commission's Rules,[7] we will refrain from modifying the license for Station WQEN999 until Hazelton has received notice of this proposed action and has had an opportunity to file a protest. To protest the license modification, Hazelton must, within thirty days of the release date of this *Order Proposing Modification*, submit a written statement protesting the proposed modification and proposing an alternate means for bringing Station WQEN999 into compliance with Arrangement F. We remind Hazelton that the Federal Communications Commission lacks the authority to waive or modify the provisions of international treaties. Hazelton's statement must be filed with the Office of the Secretary, Federal Communications Commission, 445 Twelfth Street, S.W., Room TW-A325, Washington, DC 20554.[8] In addition, please provide an electronic copy of the statement to Brian Marenco, Policy Division, Public Safety and Homeland Security Bureau, at Brian.Marenco@fcc.gov.

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[5] Arrangement F at ¶ 4.1(a). License WQEN999 authorizes Hazelton to operate on the following channel pair that is primary to licensees in Canada in Canada Border Region 3, which includes Lenawee County, Michigan: 814.4375 MHz/859.4375 MHz.

[6] We note that Hazelton's mobile units operate within a 32-kilometer radius of the base station location and thus operate more then 69 kilometers from the border with Canada. Mobile units operating near the border with Canada in the 700 MHz band, which has similar propagation characteristics to the 800 MHz band, are restricted from operating closer then 30 kilometers from the border when transmitting on channels primary to licensees in Canada. *See* Sharing Arrangement Between the Department of Industry Canada and the Federal Communications Commission of the United State of America Concerning the Use of the Frequency Bands 764 to 776 and 794 to 806 MHz by the Land Mobile Service Along the Canada-United States Border (Jun. 2005) at ¶ 7.1(e). Since Hazelton's mobile units would satisfy this minimum distance requirement we believe there is no reason to further restrict their currently authorized operation.

[7] 47 C.F.R. § 1.87(a).

[8] Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission. All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington, DC 20554.

7. If no timely protest is filed, Hazelton will have waived its right to protest the proposed modification and will be deemed to have consented thereto.

V. ORDERING CLAUSES

8. ACCORDINGLY, IT IS PROPOSED, pursuant to Sections 4(i) and 316 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 316, and Section 1.87 of the Commission's rules, 47 C.F.R. § 1.87, that the license for Private Land Mobile Radio Service Station WQEN999, held by Hazelton Industries, Inc., BE MODIFIED by reducing the ERP of the base station location 1 from 250 watts to 78 watts.

9. IT IS FURTHER ORDERED that this *Order Proposing Modification* shall be sent by certified mail, return receipt requested, to Hazelton Industries, Inc., 490 Bay Hill Dr., Avon Lake, OH 44012; and to Becky Vogelsong, 102 E. Middle St., Gettysburg, PA 17325.

10. This action is taken under delegated authority pursuant to Sections 0.131 and 0.331 of the Commission's Rules, 47 C.F.R. §§ 0.131, 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Scot Stone
Deputy Chief, Mobility Division
Wireless Telecommunications Bureau

Attachment I

Maximum Permitted PFD at Border on Canada Primary Spectrum Under Arrangement F and the Interim Arrangement

Below we calculate the PFD at the border with Canada from the base station authorized under call sign WQEN999. We then compare the predicted PFD value with the maximum permitted PFD under Arrangement F for operation on Canada primary spectrum.

Formula for Calculating PFD

The following formula, based on free-space propagation, predicts PFD at the border with Canada.

$S_{(dBW/m2)} = P_{dBm} - 20\text{Log}(d) - 38.8$

- ⇨ S is the PFD in dBW/m^2
- ⇨ P is the ERP in dBm
- ⇨ d is the distance to the border in meters.

Maximum Permitted PFD

Station WQEN999 is licensed to Hazelton Industries, Inc. and is located in Sharing Zone I under Arrangement F.

The PFD limits for Sharing Zone I are based on the Effective Antenna Height (EAH) of the transmitting antenna. The EAH is calculated by subtracting the Assumed Average Terrain Elevation (AATE) listed in Table A3 of the Interim Arrangement from the antenna radiation center above mean sea level (RCAMSL).

EAH = RCAMSL – AATE

Using the EAH value, the maximum permitted PFD at the border with Canada for operation on Canada primary spectrum is listed in Table C1 of the Letter Amendment.[9]

[9] *See supra* note 1.

Base Station Location

In Table A1 below, we list the maximum permitted PFD values, at the border, for operation on frequencies primary to licensees in Canada for each base station location.

Table A1 – Maximum Permitted PFD (Base Stations)

Call Sign	Location No.	Lat. (N)	Long. (W)	RCAMSL (meters)	AATE (meters)	EAH (meters)	Permitted PFD at border (dBW/m^2)
WQEN999	1	41° 48' 46.2"	84° 20' 03.8"	382.8	183	199.8	-90

The predicted PFD at the border with Canada is listed below in Table A2 for the base station location on the frequency primary to licensees in Canada. The predicted value is based on the free-space formula listed above.

Table A2 – Predicted PFD (Base Stations)

Call Sign	Location No.	Current Frequency (MHz)	ERP (watts)	P_{dBm} (ERP in dBm)	d (Distance to Border in meters)	$S_{(dBW/m2)}$ (Predicted PFD at Border)
WQEN999	1	859.4375	250	54	101,479	-84.9

In Table A3 below, we compare the predicted PFD to the maximum permitted PFD at the border and calculate the ERP at which compliance would be achieved for the base station when transmitting on a frequency primary to licensees in Canada.

Table A3 – Predicted PFD vs. Maximum Permitted PFD (Base Stations)

Call Sign	Location No.	Current Frequency (MHz)	Predicted PFD at Border from Table A2 (dBW/m^2)	Max. PFD at Border from Table A1 (dBW/m^2)	Max. ERP to comply with PFD Limit (dBm)	Max. ERP to comply with PFD limit (watts)
WQEN999	1	859.4375	-84.9	-90	48.9	78.0